

CLAIMS

1. An information processing apparatus for processing data by allocating a plurality of logical processors to a physical processor in a time sharing manner, comprising a context management unit mapping a context of a logical processor with no physical processor allocated thereto, to a logical partition address space of a logical partition to which the logical processor is applied, and then storing the context of the logical processor.

2. The information processing apparatus according to claim 1, comprising

a control OS allocating the plurality of logical processors to the physical processor in a time sharing manner, and

a guest OS with the logical partition associated therewith, and with the logical processor being applied to the logical partition,

wherein the control OS maps the context of the logical processor, which is applied to the guest OS associated logical partition, to a logical partition address space of the guest OS associated logical partition and then stores the context of the logical processor, based on a system call from the guest OS to the control OS.

3. The information processing apparatus according to claim 2, wherein the control OS excludes the logical processor, which is applied to the guest OS associated logical partition, from the time sharing process as an allocation candidate to the physical processor based on the system call from the guest OS to the control OS, maps the context of the logical processor to the logical partition address space, and then stores the context of the logical processor.

4. The information processing apparatus according to claim 2, wherein the control OS switches between an active state for allocating the logical processor to the physical processor and an inactive state for not allocating the logical processor to the physical processor and wherein based on the system call from the guest OS to the control OS, the control OS sets the guest OS applied logical processor to be in the inactive state, maps the context of the logical processor to the logical partition address space, and then stores the context of the logical processor.

5. The information processing apparatus according to claim 4, wherein the control OS restores the logical processor back to an allocation candidate to be allocated to

the physical processor by resetting the guest OS applied logical processor to the active state from the inactive state based on the system call from the guest OS to the control OS.

6. The information processing apparatus according to claim 1, wherein the context management unit performs storage of the context of the logical processor based on at least one of a register of the logical processor, an I/O port, and a local storage.

7. A process control method for processing data by allocating a plurality of logical processors to a physical processor in a time sharing manner, comprising

a logical processor scheduling step of excluding a logical processor from an allocation candidate to be allocated to the physical processor and

a context storage step of mapping a context of the logical processor, excluded as a candidate to be allocated to the physical processor, to a logical partition address space of a logical partition to which the logical processor is applied, and then storing the context of the logical processor.

8. The process control method according to claim 7,

further comprising a system call output step of outputting a system call from the guest OS to the control OS,

wherein the logical processor scheduling step includes excluding the logical processor as an allocation candidate to be allocated to the physical processor based on the system call, and

wherein the context storage step includes mapping the context of the logical processor, which is applied to the logical partition with the guest OS associated therewith, based on the system call, to the logical partition address space with the guest OS associated therewith, and then storing the context of the logical processor.

9. The process control method according to claim 8, wherein the control OS switches between an active state for allocating the logical processor to the physical processor and an inactive state for not allocating the logical processor to the physical processor and wherein based on the system call from the guest OS to the control OS, the control OS sets the guest OS applied logical processor to be in the inactive state, maps the context of the logical processor to the logical partition address space, and then stores the context of the logical processor.

10. The process control method according to claim 9,

wherein the control OS restores the logical processor back to an allocation candidate to be allocated to the physical processor by resetting the guest OS applied logical processor to the active state from the inactive state based on the system call from the guest OS to the control OS.

11. A computer program for performing a process control method of processing data by allocating a plurality of logical processors to a physical processor in a time sharing manner, comprising

a logical processor scheduling step of excluding a logical processor from an allocation candidate to be allocated to the physical processor and

a context storage step of mapping a context of the logical processor, excluded as a candidate to be allocated to the physical processor, to a logical partition address space of a logical partition to which the logical processor is applied, and then storing the context of the logical processor.